

Amendments to the Claims

Listing of Claims:

Claims 1-23.

Claim 24 (new): A honeycomb body, comprising:

a plurality of alternating layers including substantially smooth layers and at least partially structured layers, said layers forming cavities enabling a fluid to flow therethrough in a substantially axial direction of flow;

said at least partially structured layers having structural extremities in contact with substantially smooth adjoining layers, and said structured layers having inverted sections in a region of said structural extremities, said inverted sections protruding into said cavities and having a shape approximately inverse of a shape of said structural extremities in a cross section through the honeycomb body perpendicular to the direction of flow, forming interruptions in said structural extremities in a region of said inverted sections; and

counter-structures formed in said substantially smooth layers in a region of at least one of said inverted sections and said structural extremities and engaging with the least one of said structural extremities and said inverted sections.

Claim 25 (new): The honeycomb body according to claim 24, wherein said counter-structures are in contact with at least some of said structural extremities and/or said inverted sections, with a form-locking positive fit.

Claim 26 (new). The honeycomb body according to claim 24, wherein said counter-structures are formed in said substantially smooth layers to ensure a flexibility of said layers to remain sufficiently great for winding.

Claim 27 (new). The honeycomb body according to claim 26, wherein said counter-structures have holes and/or interruptions formed therein.

Claim 28 (new). The honeycomb body according to claim 26, wherein said layers of the honeycomb body are formed by:

- a) at least one wound layer; or
- b) a plurality of stacked layers together forming at least one stack, and wherein said stack is twisted.

Claim 29 (new). The honeycomb body according to claim 24, wherein said inverted sections are formed in layers that are at least partially structured with a given structure height, and wherein a height of said inverted sections is less than or equal to the structure height.

Claim 30 (new). The honeycomb body according to claim 24, wherein said inverted sections are formed in layers that are at least partially structured with a given structure height, and wherein a height of said inverted sections is greater than the structure height.

Claim 31 (new). The honeycomb body according to claim 24, wherein said counter-structure is an elevation or depression having a height that is smaller than a height of said inverted sections.

Claim 32 (new). The honeycomb body according to claim 31, wherein the height of said counter-structure is smaller than the height of said inverted sections by at least an order of magnitude.

Claim 33 (new). The honeycomb body according to claim 24, wherein each one of said inverted sections is in engagement with a respective said counter-structure.

Claim 34 (new). The honeycomb body according to claim 24, wherein at least some of said counter-structures comprise inverted sections.

Claim 35 (new). The honeycomb body according to claim 24, wherein at least some of said counter-structures comprise embossings.

Claim 36 (new). The honeycomb body according to claim 35, wherein said embossings are microstructures running substantially transversely to the axial direction of flow of the honeycomb body.

Claim 37 (new). The honeycomb body according to claim 24, wherein at least some of said counter-structures comprise two or more embossings spaced apart in the direction of flow.

Claim 38 (new). The honeycomb body according to claim 35, wherein said embossings are formed with perforations.

Claim 39 (new). The honeycomb body according to claim 35, wherein said embossings are formed with micro-perforations.

Claim 40 (new). The honeycomb body according to claim 24, wherein at least some of said counter-structures are formed as holes.

Claim 41 (new). The honeycomb body according to claim 24, wherein at least some of said counter-structures are holes formed in said substantially smooth layers, and said structural extremities and/or said inverted sections protrude into said holes.

Claim 42 (new). The honeycomb body according to claim 24, wherein said structural extremities and/or said inverted sections engage in said holes substantially with a positive fit.

Claim 42 (new). The honeycomb body according to claim 26, wherein at least some of said counter-structures are formed in said at least partially structured layers.

Claim 43 (new). The honeycomb body according to claim 24, wherein a quotient of:

a sum of a height of said inverted sections and a height of said counter-structures; and

a radial distance between two walls of said cavities;

is less than 1.

Claim 44 (new). The honeycomb body according to claim 24, wherein at least some of said layers are metallic layers.

Claim 45 (new). The honeycomb body according to claim 44, wherein at least some of said metallic layers are sheet-metal layers.

Claim 46 (new). The honeycomb body according to claim 45, wherein said sheet-metal layers have a thickness of less than 60 μm .

Claim 47 (new). The honeycomb body according to claim 45, wherein said sheet-metal layers have a thickness of less than 40 μm .

Claim 48 (new). The honeycomb body according to claim 45, wherein said sheet-metal layers have a thickness of less than 25 μm .

Claim 49 (new). The honeycomb body according to claim 44, wherein at least some of said metallic layers are formed to at least partially allow a fluid to flow therethrough.

Claim 50 (new). The honeycomb body according to claim 49, wherein at least some of said metallic layers are formed from a metallic fiber material.

Claim 51 (new). The honeycomb body according to claim 50, wherein said fiber material is a sintered metallic fiber material.

Claim 52 (new). The honeycomb body according to claim 24, wherein at least some of said layers are formed of a composite material.

Claim 53 (new). The honeycomb body according to claim 24, wherein said composite material consists essentially of ceramic and metallic fibers.

Claim 54 (new). The honeycomb body according to claim 24 configured as a catalyst support or a filters.

Claim 55 (new). The honeycomb body according to claim 24 configured for integration into an exhaust system of a motor vehicle.